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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/771,714

02/04/2004

Mark J. Cleaver

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EXAMINER

SAWHNEY, HARGOBIND S

ART UNIT

PAPER NUMBER

2885

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/771,714	CLEAVER ET AL.	
	Examiner	Art Unit	
	Hargobind S. Sawhney	2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Request for Continued Examination (RCE) and the amendment, each filed on November 27, 2006 have been entered. Accordingly:

- Claims 1-24 have cancelled; and
- Claim 25 has been amended.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 6,676,284 B1 (Wynne Willson).

Regarding claims 25 and 27, Wynne Willson discloses a flexible illumination device 1 (Figure 1) comprising:

- a substantially rod-like member 2 including a light receiving surface – inner surface the rod-like member 2- , and light-emitting surface – outer surface of the rod-like member 2 (Figure 1, column 10, lines 31-34) ;
- the rod-like member 2 composed of a substantially flexible material (Figure 1, column 2, lines 28-10; column 10, lines 33 and 34);

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- a flexible circuit board 4 received in the internal channel defined by the wall of the rod-like member 2 (Figure 1, column 2, lines 28-30; column 9, lines 17-24);
- a plurality of spaced light sources 5 arranged on the flexible circuit board 4, and the point light sources 5 arranged in line extending along the light receiving surface of the rod-like member 2 (Figure 1, column 10, lines 38 and 39);
- the light incident and scattered on the light receiving surface of the rod like member 2, appearing uniform along the light emitting surface (Figure 1, column 10, lines 47-51; and claim 1);
- a collection surface 16, positioned near the point light sources 15, capable of reflecting light not emitted directly into the rod-like member 12' (Figure 9, column 13, lines 1-7); and
- the point light sources 15 being light emitting diodes (LEDs) (Figure 9, column 12, lines 60-64).

However, Wynne Willson does not specifically teach a collection surface being included in the above-discussed first embodiment of the illumination device. On the other hand, Wynne Wilson discloses second embodiment of a flexible illumination device (Figure 9) including:

- a substantially rod-like member 12' – the combination of optically contacting elements 12 and 17- including a light receiving surface – inner

- surface the rod-like member 17-, and light-emitting surface – outer surface of the rod-like member 12' (Figure 9, column 13, lines 8-10;
- the rod-like member 12' composed of a substantially flexible material (Figure 9, claim 6); and
 - a collection surface 16, positioned near the point light sources 15, capable of reflecting light not emitted directly into the rod-like member 12' (Figure 9, column 13, lines 1-7).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to further modify the illumination device of the first embodiment by providing the collection surface taught by Wynne Willson in the second embodiment for the benefits of directing light from the light source with minimum loss of the light flux.

Regarding claim 27, Wynne Willson discloses the illumination device as applied to claim 25 discussed above, the illumination device further including the plurality of point light sources 5, each including light emitting diodes (LEDs) (Figure 1, column 10, line 38;

4. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wynne US Patent No.: 6,676,284 B1 (Wynne Willson) in view of US Patent No.: 5,982,969 (Sugiyama et al.).

Wynne Willson discloses an illumination device comprising a light collection surface positioned on the inner surface of the rod-like member, and near the point light sources as applied to claim 25 discussed in section 3 above.

However, Wynne Willson does not specifically teach the light collection surface positioned adjacent a portion of the outer surface of the rod-like member as claimed by the applicant.

It would be have been obvious to one of ordinary skill in the art at the time of the invention to realize the optical equivalency of positioning the collection (reflective) surface on the outer surface of the rod-like member, instead of placing the reflective surface on the inner surface of the rod-like member as evident in Sugiyama et al. ('969) (Figures 3 and 7, column 6, lines 38-44; and column 8, lines 38-40).

Additionally, the above-indicated modification imparts benefit and advantages of controlling the direction of the light reflected through the rod-like member.

5. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 6,676,284 B1 (Wynne Willson) in view of US Patent No.: 4,811,507 (Blanchet).

Regarding claims 28 and 29, Wynne Willson discloses an illumination device comprising a rod-like member composed of flexible compound as applied to claim 25 discussed in section 3 above.

However, Wynne Willson does not specifically teach the flexible compound impregnated with filler deflecting light incident thereon.

On the other hand, Blanchet ('507) discloses an illumination apparatus including a light-conducting member 1 (Figure 3, column 2, line 62) formed of a light-transmitting material having micro balloons 6 (Figure 3, column 2, lines 62-65).

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It would be have been obvious to one of ordinary skill in the art at the time of the invention to further modify the device of Wynne Willson by providing the light-conducting member composed of a flexible material with impregnated micro balloons as taught by Blanchet for benefit and advantage of providing re-emission of light that enhancing the light reflection of light within the light guide element.

Response to Amendment

6. Applicant's arguments filed on November 27, 2006 with respect to the 35 U.S.C. 102(b) rejections of claims 25 and 27 and 35 U.S.C. 103(a) rejections of claims 26-29 have been fully considered but are moot in view of the new ground(s) of rejections necessitated by the amendment.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S Sawhney whose telephone number is 571 272 2380. The examiner can normally be reached on 8:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jong-Suk (James) Lee can be reached on 571 272 7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

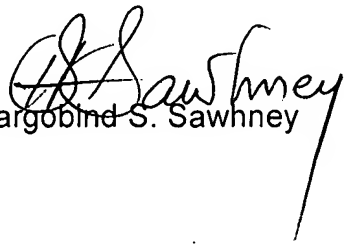
you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

HSS

2/4/07

Examiner:


Hargobind S. Sawhney